

#### 4.16 IMPACTS ON WATERBORNE ACTIVITY

The Proposed Action and its alternatives would result in shoreline development, construction of marinas and breakwaters, and other structures that would extend out into the water, potentially affecting navigation and other water activities. Development could affect waterborne activities by changing navigational patterns or by excluding certain activities from occurring in developed areas. This section assesses the possible impacts of the proposed development on these waterborne activities, such as navigation and commercial fishing. The ROI used in the analysis includes the three-county coastline and areas of the Mississippi Sound and Back Bay, but focuses on the areas subject to development activity under each alternative.

The potential direct impacts of the Proposed Action or its alternatives on waterborne activity would include the diversion of east-west navigation on the Mississippi Sound, encroachment of marine structures on permitted fishing grounds in the Sound, and changes in existing water use patterns on the Sound and Back Bay.

An informal dredged channel at the Broadwater site currently provides an approach to the Broadwater Marina and allows east-west navigation along the Biloxi shoreline. Boats traveling past the Broadwater Marina currently must divert a short distance around the existing peninsula (see Figure 2.2-1).

With the southward extension of the Broadwater peninsula proposed under Alternatives 2, 4, and 5, boats traveling east or west in the informal channel would need to divert a farther distance around the new peninsula extension along the realigned and lengthened channel. Table 4.16-1 shows additional navigational distances for each alternative and describes the method used for calculating navigational distances.

##### *Alternative 2*

Under Alternative 2, the existing Broadwater peninsula would extend 4,475 feet into the Mississippi Sound (see Figure 2.2-2). Boats and other watercraft traveling around this extended peninsula would be diverted by an additional 7,298 feet. This additional distance, however, would have a minor impact on water use patterns in the Sound because of the small number of boats using this route. Large commercial vessels use north-south oriented, deep-water channels at ports to the east and west of the Broadwater site to reach the Intercoastal Waterway or the Gulf of Mexico. Boating in the shallow near-shore waters of the Sound consists mainly of smaller recreational craft. As discussed in Section 3.16, these boats generally travel north-south routes; therefore, most boating trips in the Biloxi area of the Sound would remain unaffected by the southward extension of the Broadwater peninsula.

**Table 4.16-1**  
**Approximate Navigational Distances around Broadwater Peninsula**

Alternative	Peninsula Extension Into Sound <sup>1</sup> (feet)	Navigational Distance Around Broadwater Marina <sup>2</sup> (feet)	Navigational Distance Added by Proposed Peninsula <sup>3</sup> (feet)
1	1,555	882	0
2	4,475	8,180	7,298
3	NA	NA	NA
4	2,790	4,759	3,877
5	3,000	4,181	3,299

Source: Staff analysis.

Notes:

1. Peninsula Extension into the Sound = straight line distance from the centerline of US 90 to the furthest extent of the alternative's footprint (usually the breakwater).
2. Navigational Distance around Broadwater Marina = distance measured from the intersection of each alternative's proposed E-W navigation channel with the existing dredged channel's east and west sections. The distance was measured following the centerline of each of the proposed E-W navigation channels. The measurement began at the intersection of the proposed E-W navigation channel with the east section of the existing dredged channel, continued around each of the alternatives' marinas, ending at the intersection of the E-W navigation channel with the west section of the existing dredged channel.
3. Navigational Distance Added by the Proposed Peninsula = calculated difference between the "Navigational Distance Around Broadwater Marina" of No-action Alternative and each respective alternative.

Though exact boundaries were difficult to determine with available data, generalized maps of MDMR-permitted fishing zones in the Mississippi Sound suggest that an extended Alternative 2 peninsula could encroach slightly on shrimp trawling areas and menhaden netting areas (personal communication, C. Perret, MDMR, Biloxi, MS to E. Drake, EDAW, Atlanta, GA, December 22, 1999). Current oyster harvesting areas would be unaffected by the lengthened peninsula. Though the impact cannot be quantified, Alternative 2 may produce some minor loss of access to commercial fishing grounds. The fishing areas that would be lost under Alternative 2 represent a small portion of the overall fishing zones within the Sound and along the Biloxi shoreline.

Project development associated with Alternative 2 would likely alter existing water use patterns on the Sound. This alternative would replace the existing Broadwater Marina with a new facility. The resulting increase in available berthing capacity from 118 to 400 marina slips would increase boating activity in the area. Channel dredging associated with the alternative would also enhance current navigational access.

#### *Alternative 3*

The impacts of Alternative 3 would be different from those of Alternatives 2, 4, and 5. There would be no substantial extension of peninsulas, marinas, breakwaters, or other structures into navigable waters. There are also no permitted fishing zones in the Back Bay near the Alternative

3 sites. Therefore, Alternative 3 would have minor direct impacts on navigation and no impact on commercial fishing.

However, development of Alternative 3 would displace existing uses of the six sites that currently support waterborne activities and replace them with waterfront casinos and small to large marinas (see Sections 4.8 and 4.12), thus having an indirect impact on waterborne uses. Alternative 3 would result in the addition of 380 boat slips to the Point Cadet/Bayview Avenue area of Biloxi and would enhance navigational access through the dredging of new channels. These new boat slips and related boating uses would create greater intensity of waterborne activity in the area, potentially altering existing water use patterns on the Back Bay.

#### *Alternatives 4 and 5*

Alternatives 4 and 5 (see Figures 2.2-13 and 2.2-16) would also result in a diversion of east-west navigation around an extended peninsula (Table 4.16-1) and could have minor impacts on access to commercial fishing grounds in the Mississippi Sound. Though the Alternative 4 peninsula would not extend as far into the Sound, Alternative 4 would slightly increase navigational distance over Alternative 5. The footprint width of the Alternative 4 marina would be approximately 1,800 feet compared to the Alternative 5 footprint width of about 925 feet. The width of the marina would change where the intersection of the proposed east-west channel meets with the existing dredged channel and, therefore, would increase the distance required for navigating around the marina between the east and west sections of the existing dredge channel.

With peninsulas that are roughly half the length of the Proposed Action, however, the impacts that would be generated by Alternatives 4 and 5 would be less than those of the Proposed Action. Alternatives 4 and 5 would also increase marina capacity to 400 boat slips and improve navigation channels, which would increase boating activity.

#### *No-Action Alternative*

Under the No-action Alternative, the existing Broadwater site could undergo some facility renovations and additions. These improvements would be unlikely to result in an extension of the existing peninsula and, therefore, would have no impact on east-west navigation in near-shore waters or fishing activity in shrimping and menhaden zones. The No-action Alternative would achieve some improvement in navigational access through maintenance dredging of the existing channel, but would not substantially increase current marina capacity.

#### **4.16.1 Mitigation**

Most of the impacts to waterborne uses identified in this analysis are minor in nature and involve changing patterns of waterborne uses rather than the exclusion of activities or substantial conflicts in use. Certain mitigation measures should be included with any alternative. Alternatives 2, 4, and 5 would all result in changed patterns of navigation, but each has a revised navigation channel that would provide for improved navigation past the peninsula and that would need to be maintained as part of the project.

1 Measures such as improved navigation markers and signs, warnings of new navigational patterns,  
2 public education efforts, high-intensity use period management, and other measures could be  
3 implemented to reduce impacts under any alternative. This is especially true for any alternative  
4 that would result in increased use of the same areas for both recreational boating use and  
5 commercial/industrial uses. For any alternative that would encroach on commercial fishing  
6 grounds, it may be necessary to make minor revisions to the legal boundaries of fishing zones to  
7 reduce potential conflicts between commercial fishing activity and other waterborne uses.